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EXAMINER

DIVECHA, KAMAL B

ART UNIT	PAPER NUMBER
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2151

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Response to Arguments

Claims 1-9 and 23-33 are pending in this application.

Claims 10-19 remains cancelled and applicant further cancelled claims 20-22 as per response filed October 21, 2005.

Claim Rejections - 35 USC § 112

The claim rejections made under 35 USC 112, second paragraph in the prior non-final office action has been withdrawn.

Claim Rejections - 35 USC § 101

The claims rejection under 35 USC 101, with respect to claim 1-9 has been withdrawn.

Information Disclosure Statement

The IDS filed on October 21, 2005 has been considered.

Claim Rejections - 35 USC § 102

Applicant's arguments filed October 21, 2005 have been fully considered but they are not persuasive.

The examiner summarizes the applicant's arguments presented in the response filed and addresses each argument individually.

As per applicant's arguments, the applicant argues in substance that:

- a. It is respectfully submitted that the office action does not show that Rekhter discloses, teaches or renders obvious over all the limitation of claim 1, as amended. And argues that as to the term "a first context for the first customer", Rekhter merely discloses routing tables (FIB, etc) that are maintained on behalf of Internet users generally as contrasted with being maintained for a particular users (remarks, pg. 12-13).

In response to [a]: Examiner will show the amended limitation being disclosed by Rekhter (see the detailed action).

Based upon the applicant's specification, **the term "context" is defined as set of information and/or** collection of data structures for a customer of a network providers network element (applicant's specification, page 5 [0021], page 6-7 [0024]).

Keeping the applicant's teaching in mind, any set of information referred by Rekhter should be interpreted as "context".

b. Furthermore, even if one assumes, purely for the sake of argument, that Rekhter discloses contexts pertaining to VPN customers, he teaches away from the concept of maintaining set(s) of information for non-VPN using customers (remarks, pg. 13).

In response to [b]: Examiner is confused about how Rekhter teaches away from the concept of maintaining set of information for non-VPN customers.

Column 9 lines 27-44 of Rekhter states:

"A normal Internet router maintains only one FIB table. But routers in a provider of connections for many enterprises' peer-model **VPNs** need different tables for different **VPNs**, because a router may need to distinguish between potentially identical prefixes in different **VPNs**. **(Each SP router also needs to maintain a general, i.e., non-VPN-specific, FIB.** Unless explicitly stated otherwise, references below to the FIB mean the general FIB.) In accordance with the present invention's teachings, though? transit routers, i.e., routers that are not directly attached to customer's **VPN**, do not need to maintain **VPN**-specific FIBs. (We consider a PE router to be "directly attached" to a particular **VPN** if it is directly attached to a CE router in that **VPN**.) And an edge router such as PE1 or PE2 needs to maintain, in addition to a general FIB, a separate FIB only for each **VPN** to which it is connected directly. The reason why this is so will become apparent as the description proceeds".

Rekhter explicitly teaches that each service provider's router needs to **maintain a general, i.e. non-VPN specific, FIB.**

Art Unit: 2151

c. It is respectfully submitted that the office action does not show that Rekhter discloses, teaches or renders obvious over all the limitations of claim 6. For example, claim 6 recites, in part, “.....maintaining a single EGP table for the first and second layer 3 VPNs...”. And argues that Rekhter is silent as to EGP tables (remarks, pg. 14).

In response to [c]: Examiner disagrees with the applicant interpretation and the argument.

Applicant admitted that Rekhter does disclose the maintenance of FIB (forward information base) in connection with EGP, but it is respectfully submitted that FIBs and EGP are discrete in the art and one is not obvious over the other and also admits that EGPs are notorious in the relevant art and further provides an evidence (remarks, page 14).

However, **Applicants specification states (page 8):**

[0028] “The configuration structure 203A includes configurations specifically for the context 107A. The configurations in the configuration structure 203A may be entered by a network administrator of the network element 105 or the administrator for the owner of the context 107A. The routing table 205A is a routing table specifically for the context 107A. The routing table 205A is used to process traffic transmitted and received for the context 107A. **The IGP table 207A is a forwarding table specifically for the context 107A. The IGP table 207A may be an OSPF forwarding table, a RIP forwarding table, an ISIS forwarding table, etc. The exterior gateway protocol forwarding table 209A is a forwarding table with routes specifically for the context 107A maintained by an EGP process (e.g., BGP, etc.).** As previously stated, the owner of the context 107A can be given permission by the owner of the network element 105 to view and manipulate information for the context 107A”.

In other words, IGP table and EGP table according to applicant's specification above are simply forwarding table with routes.

Rekhter's Forwarding Information Base is a table used to map address prefixes to next hops, i.e. routes (Rekhter, col. 8 L55-62). Therefore based on the applicant's specification, it should be understood that Rekhter's FIB tables are EGP tables and IGP tables.

Further, Rekhter teaches that the FIB tables can be provided manually by the system administrator or more typically, routers build such tables automatically by employing routing algorithms/protocols to share topological information (col. 8 L63-67) and discloses few of mechanisms (i.e. routing protocols) for providing the contents of the FIB tables. The types of routing protocols that it uses can be divided into IGPs (such as OSPF, EIGRP, IS-IS), EGPs and TDPs, i.e. the contents of the FIB tables are provided (i.e. built) and/or maintained by considering routing protocols such as interior gateway protocol (IGP) and exterior gateway protocol (EGP), resulting into the FIB table and/or EGP table (Rekhter, col. 11 L6-33).

According to the applicant, the following subject matter is notorious (i.e. well known) and old in the relevant art as evidenced by information disclosure statement received on October 21, 2005.

- Layer 3 VPN as evidenced by RFC 2547 (remarks, page 10).
- Exterior gateway protocol as evidenced by RFC 911 (remarks, page 14).
- Border Gateway protocol as evidenced by RFC 2547 (remarks, page 10), which carries a date of March 1999 and August 1984, prior to applicants effective filing date.

Therefore, technically speaking, the subject matter, i.e. layer 3 VPN, EGP table, IGP table etc., disclosed by applicant's claims, was well known in the relevant art, prior to the filing of the instant application, as evidenced by the information disclosure statement submitted on October 21, 2005.

For the at least reasons set forth above, the rejection is maintained.

DETAILED ACTION

Specification

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and use the invention, i.e., failing to provide an enabling disclosure.

The test to be applied under the written description portion of 35 U.S.C. § 112, first paragraph, is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of later claimed subject matter. Vas-Cat, Inc. v. Mahurkar, 935 F. 2d 1555, 1565, 19 USPQ2d 111, 1118 (Fed. Cir. 1991), reh'rg denied (Fed. Cir. July 8, 1991) and reh'rg, en banc, denied (Fed. Cir. July 29, 1991).

The applicants have failed to provide an enabling disclosure in the detailed description of the embodiment. The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to support the subject matter set forth in these claims.

The claims recite “providing a layer 3 VPN to the first customer **based upon the first context**” and “**providing non-VPN access to a backbone to a second customer based upon the second context**”.

Applicant has referred to specification, last sentence of para [0023] for finding the support for this additional limitation of “providing non-VPN access to a backbone to a second customer based upon the second context” (remarks, page 13). However paragraph [0023] states:

[0023] “The VPN context 109A includes information and/or data structures for the VPN A. Traffic received from the VPN A site 101A is processed in accordance with the APN context 109A. The VPN context 109B includes information and/or data structures for the VPN B. Traffic received from the VPN B site 103A is processed in accordance with the VPN context 109B. Traffic is transmitted between the VPN A sites 101A and 101B in accordance with the VPN context 109A. Traffic is transmitted between the VPN B sites 103A and 103B in accordance with the VPN context 109B. Traffic received from the service provider network element 106 is processed in accordance with the context 107A”.

The last sentence as referred by the applicant simply states: “traffic received from the service provider network element 106 is processed in accordance with the context 107A”. It is clearly understood that there is no linking between the two limitations, i.e. the last sentence of paragraph [0023] and the amended claim limitation.

Further there is no whatsoever any teaching and/or suggestion that would indicate the process of providing a layer 3 VPN to the first customer **based upon the first context and providing non-VPN access to a backbone to a second customer based upon the second context.**

The applicant’s specification states: “traffic received from the service provider network element is processed in accordance with the context (page 6 [0023])”. As such, the specification fails to provide the support for the subject matter set forth in the amended claims.

Claim Objections

The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

For example: Phrases such as VPN, EGP, IGP, RD, etc., should be spelled in its entire form in order to avoid confusion with other terminology because the claims are given broadest reasonable interpretation.

Claim Rejections - 35 USC § 112

The following is a quotation of the **first paragraph of 35 U.S.C. 112**:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-5 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

The following is a quotation of the **second paragraph of 35 U.S.C. 112**:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2151

Claim 1 recites the limitation “the context” in line 6. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 1, the phrase “other” renders the claim indefinite because it is unclear what the term “other information” intends to cover in the claimed invention. See MPEP § 2173.05(d).

Claim 2 recites “the context” in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 3-5 are rejected due to their dependency on claim 1.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 6-9 and 23-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 23-33 are non-statutory because specification is evidenced to define the “machine-readable medium” to include read only memory, random access memory, magnetic disk storage media, optical storage media, flash memory devices, electrical, optical, acoustical, or other form of propagated signals (e.g. carrier waves, infrared signals, digital signals, etc.), which does not fall within any of the four classes and/or categories of patentable subject matter set forth in 35 U. S. C. § 101.

Claims that recite nothing but the physical characteristics of a form of energy, such as frequency, voltage or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O’Reilly, 56 U. S. (15 How.) at 112-14.

Secondly, a computer implemented method or the propagated signals which “when” executed does not provide any useful, concrete and tangible results of the subject matter set forth in claims 6-9 and 23-33. A result is useful if it has specific, substantial and credible utility. The claimed invention of claims 6-9 and 23-33 can be done using paper, pencil and a machine.

Therefore, for the at least reasons set forth above, the claims are non-statutory.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-9 and 23-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Rekhtar et al. (hereinafter Rekhtar, U. S. Patent No. 6,339,595 B1).

As per claim 1, Rekhtar discloses a method comprising: maintaining on a single network element of a network provider a first context for the first customer separately from a second context for the second customer (col. 4 L34-38, col. 6 L41-50) wherein the contexts enable isolation of traffic processed and provide the ability to give access to a given customer’s information while restricting access to other information in the single network element (col. 3 L45-56, col. 18 L39-57); providing a layer 3 virtual private network to a first customer based upon the first context (fig. 1 and fig. 9, col. 6 L14-41, col. 62 L55-67); providing non-VPN access to a backbone to a second customer based upon the second context (fig. 1, fig. 9, col. 9 L28-44 and col. 3 L45-56, col. 18 L39-57).

As per claim 2, Rekhtar discloses the process wherein the first context includes configuration information for the layer 3 VPN and the second context includes configuration information for the second customer (col. 6 L41-50).

As per claim 3, Rekhtar discloses the process wherein the first context includes routing information for the layer 3 VPN and the second context includes routing information for the second customer (col. 6 L29-50).

As per claim 4, Rekhtar discloses the process of maintaining on the network element a set of non-VPN related information for the first customer (col. 9 L28-35).

As per claim 5, Rekhtar discloses the process of providing a second layer 3 VPN to a third customer (fig. 1); maintaining on the single network element a third context for the second layer 3 VPN (col. 6 L43-50, col. 9 L23-44); and maintaining a single exterior gateway protocol process table for the first layer 3 VPN and the second layer 3 VPN (col. 11 L14-18).

As per claim 6, Rekhtar discloses a computer implemented method comprising: maintaining a first context for a first layer 3 VPN, the first context including a first value identifying the first layer 3 VPN (col. 18 L28 to col. 19 L60, col. 20 L60-62); separately maintaining a second context for a second layer 3 VPN, the second context including a second value identifying the second layer 3 VPN (col. 18 L28 to col. 20 L4); associating the first value with a first route distinguisher (col. 19 L52-56); associating the second value with a second route distinguisher (col. 18 L12 to col. 19 L4); maintaining a single EGP table for the first and second layer 3 VPNs (col. 11 L13-18).

As per claim 7, Rekhtar discloses the process of separately maintaining a third context for a non-VPN customer, the third context including a third value identifying the non-VPN customer

Art Unit: 2151

(col. 9 L32-62) and maintaining a second EGP table for the non-VPN customer (col. 9 L32-44 and col. 11 L15-18).

As per claim 8, Rekhtar discloses the process of maintaining a first routing table for the first layer 3 VPN (col. 4 L34-38, col. 8 L56-67); maintaining a second routing table for the second layer 3 VPN (col. 6 L41-50, col. 9 L28-44); updating a set of entries for the first layer 3 VPN in the single EGP table, each of the set of entries indicating the first route distinguisher (col. 11 L5-60 and col. 16 L5-33); mapping the first route distinguisher to the first value (col. 18 L12-67) and indicating the mapped first value in communication about the updated set of entries (col. 19 L5-67, col. 12 L65-67, col. 19 L61 to col. 20 L4).

As per claim 9, Rekhtar discloses the process of maintaining a data structure for the single EGP table, the data structure indicating the association between the first value and the first route distinguisher and between the second value and the second route distinguisher (col. 19 L5 to col. 20 L32, col. 8 L56 to col. 9 L51) and performing mappings between the first value and the first route distinguisher and between the second value and the second route distinguisher with the data structure (col. 11 L45-59, col. 12 L65 to col. 13 L35, col. 18 L58-67, col. 19 L52-56).

As per claim 20, Rekhtar discloses a machine readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising: maintaining separate exterior gateway tables for non-VPN customers (col. 9 L28-35 and col. 11 L6-18); maintaining a single shared EGP table for layer 3 VPN customers (col. 11 L13-18, col. 33 L36-41) and associating individual layer 3 VPNs with individual route distinguishers (col. 19 L52-60, col. 18 L31 to col. 19 L4).

As per claim 25, Rekhtar discloses the process wherein the mappings are performed for communications about the single EGP table (col. 19 L5 to col. 20 L3).

As per claim 26, Rekhtar discloses a machine readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising: storing a first set of configuration information for a non VPN customer (col. 9 L32-35); storing a second set of configuration information for a first layer 3 VPN, the second context including a first value identifying the first layer 3 VPN (col. 6 L43-50); associating the first value with a first route distinguisher (col. 18 L27 to col. 19 L4); storing a third set of configuration information for a second layer 3 VPN, the third set of configuration information including a second value identifying the second layer 3 VPN; associating the second value with a second RD (col. 18 L27 to col. 19 L4); creating a first EGP table and a first routing table for the non VPN customer (col. 8 L55 to col. 9 L44); creating a second EGP table for the first and second layer 3 VPNs (col. 11 L5-18 and col. 12 L41 to col. 13 L34); creating a second routing table for the first layer 3 VPN and a third routing table for the second layer 3 VPN (col. 4 L34-38); mapping between the first value and the first RD to communicate modifications and to service requests for a set of entries in the second EGP table, the set of entries corresponding to the first layer 3 VPN (col. 19 L5 to col. 20 L67 and col. 18 L12-67).

As per claim 27, Rekhtar discloses the process of mapping between the second value and the second RD to communicate modifications and to service requests for a second set of entries in the second EGP table, the second set of entries corresponding to the second layer 3 VPN (col. 19 L5 to col. 20 L67 and col. 18 L12-67).

Art Unit: 2151

As per claim 28, Rekhtar discloses the process wherein each of the set of entries in the second EGP table indicates the first RD (col. 13 L5-33).

As per claim 29, Rekhtar discloses the process wherein the non-VPN customer and a customer provided the first layer 3 VPN are the same entity (col. 9 L28-44, fig. 1, fig. 7 and fig. 9).

As per claims 23-24 and 30-33, they do not teach or further define over the limitations in claims 1-9, 26-29. Therefore, claims 21-24, 30-33 are rejected for the same reasons as set forth in claims 1-9, 20.

Additional References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Arrow et al., U. S. Patent No. 6,226,751 B1.
- b. Tabata, Pub. No.: US 2001/0016914 A1.
- c. Rekhtar et al., U. S. Patent No. 6,526,056 B1.
- d. Rekhtar et al., U. S. Patent No. 6,463,061 B1.
- e. Cheline et al., Pub. No.: US 2003/0041136 A1.
- f. Gonda et al., U. S. Patent No. 6,662,221 B1.
- g. Branigan et al., Pub. No.: US 2002/0090089 A1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2151

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Kamal Divecha
Art Unit 2151
January 16, 2006.



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SUPERVISORY PATENT EXAMINER